WHAT IS CLAIMED IS:

1.   A method of simultaneously transmitting data packets to multiple users using limited transmission power comprising the steps of:

    a)   establishing transmission power requirements for each user,

    b)   receiving in a queue a plurality of data packets for transmission to one or more users,

    c)   selecting one or more data packets for transmission in a composite burst with cumulative power for the selected packets not exceeding the limited transmission power,

    d)   transmitting the selected data packets in a composite burst within the limited transmission power, and

    e)   repeating step c) until all data packets in the queue have been transmitted.

2.   The method as defined by claim 1 wherein step a) includes determining a signal to noise ratio in the transmission link to each user whereby requisite power can be determined for a desired level of data reception.

3.   The method as defined by claim 2 wherein step c) includes identifying data packets which have been delayed in transmission, and giving priority in selection to delayed data packets.

4.   The method as defined by claim 3 wherein step c) further includes assigning a priority weight to users based on quality of service subscribed by the user.

5.   The method as defined by claim 4 wherein step c) further includes assigning a priority weight based on explicit prioritization of packets.

6.   The method as defined by claim 4 wherein each packet is directly spread by a separate orthogonal code sequence for simultaneous multiple access transmission.

7.   The method as defined by claim 4 wherein each packet is assigned to a different carrier frequency for simultaneous multiple access transmission.

8.   The method as defined by claim 1 wherein each packet is directly spread by a separate orthogonal code sequence for simultaneous multiple access transmission.

1   9.   The method as defined by claim 8 wherein step c) includes identifying

2   data packets which have been delayed in transmission and giving priority in selection to

3   delayed data packets.

1   10.   The method as defined by claim 8 wherein step c) further includes

2   assigning a priority weight to users based on quality of service subscribed by the user.

1   11.   The method as defined by claim 8 wherein step c) further includes

2   assigning a priority weight based on explicit prioritization of packets.

1   12.   The method as defined by claim 1 wherein each packet is assigned to a

2   different carrier frequency for simultaneous multiple access transmission.

1   13.   The method as defined by claim 12 wherein step c) includes

2   identifying data packets which have been delayed in transmission and giving priority and

3   selection to delayed data packets.

1   14.   The method as defined by claim 12 wherein step c) further includes a

2   priority weight to users based on quality of service subscribed by the user.

1   15.   The method as defined by claim 12 wherein step c) further includes

2   assigning a priority weight based on explicit prioritization of packets.

1   16.   Apparatus for selecting data packets for simultaneous transmission to

2   multiple users using a limited transmission power comprising:

3   a)   a memory for receiving in a queue a plurality of data packets for

4   transmission to one or more users,

5   b)   power determining means for establishing power requirements for

6   transmitting data to each user based on signal to noise ratio in each link to each user, and

7   c)   data packet selection means for selecting one or more data packets for

8   transmission in a composite burst with cumulative power for the selected packets not

9   exceeding the limited transmission power, the selecting means delaying packets as necessary

10   to accommodate the limited transmission power.

1   17.   Apparatus as defined by claim 16 wherein the selection means gives

2   priority in selection to delayed data packets.

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1   18.   Apparatus as defined by claim 16 wherein the selection means gives

2   priority in selection to users based on quality of service.

1   19.   Apparatus as defined by claim 16 wherein the selection means gives

2   priority in selection to preassigned explicit priority of packets.

1   20.   Apparatus as defined by claim 16 wherein the selection means gives

2   priority in selection to delayed data packets, quality of service subscribed by each user, and

3   explicit priority of packets.

1   21.   Apparatus as defined by claim 20 wherein each packet is directly

2   spread by a separate orthogonal code sequence for simultaneous multiple access transmission.

1   22.   Apparatus as defined by claim 20 wherein each packet is assigned to a

2   different carrier frequency for simultaneous multiple access transmission.

1   23.   Apparatus as defined by claim 16 wherein each packet is directly

2   spread by a separate orthogonal code sequence for simultaneous multiple access transmission.

1   24.   Apparatus as defined by claim 16 wherein each packet is assigned to a

2   different carrier for simultaneous multiple access transmission.